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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/774,529	02/10/2004	Toshiharu Daii	33773M064	1096
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441 7590 06/30/2005

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WASHINGTON, DC 20036

EXAMINER

LUU, CHUONG A

ART UNIT	PAPER NUMBER
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2818

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

10/774,529

Applicant(s)

DAI ET AL.

Examiner

Chuong A. Luu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/2/2004.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

PRIOR ART REJECTIONS

Statutory Basis

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The Rejections

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Fukumoto et al. (U.S. 6,879,026 B2).

Fukumoto discloses a semiconductor wafer with

(1) affixing a protective tape to the front surface of a semiconductor wafer having a plurality of circuits formed on its front surface, grinding the back surface of the semiconductor wafer and then, subjecting the back surface of the semiconductor wafer to plasma etching, wherein a tape having an adhesive layer that is hardened by exposure to ultraviolet radiation is used as the protective tape and the protective tape is exposed to ultraviolet radiation to harden the adhesive layer before the back surface of the semiconductor wafer undergoes plasma etching (see column 7, lines 50-60; column

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8, lines 54-67; column 9, lines 1-5; column 12, lines 49-57; column 14, lines 61-67 and column 15, lines 1-17).

PRIOR ART REJECTIONS

Statutory Basis

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The Rejections

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukumoto et al. (U.S. 6,879,026 B2) in view of Badehi (U.S. 6,646,289 B1).

Fukumoto discloses a semiconductor wafer with

(2) grinding the back surface of the semiconductor wafer until the dividing grooves are exposed to separate into individual circuits and then, executing plasma etching of the back surface of the semiconductor wafer, wherein a tape having an adhesive layer which is hardened by exposure to ultraviolet radiation is used as the protective tape, and the protective tape is exposed to ultraviolet radiation to harden the adhesive layer before the back surface of the semiconductor wafer undergoes plasma

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etching (see column 7, lines 50-60; column 8, lines 54-67; column 9, lines 1-5; column 12, lines 49-57; column 14, lines 61-67 and column 15, lines 1-17).

Fukumoto teaches the above outlined features except for forming dividing grooves having a predetermined depth along a plurality of streets on the front surface of a semiconductor wafer having a plurality of streets on the front surface in a lattice form and a circuit formed in each of a plurality of areas sectioned by the plurality of streets, affixing a protective tape to the front surface of the semiconductor wafer having the dividing grooves formed thereon. However, Badehi discloses an integrated circuit with (2)... forming dividing grooves having a predetermined depth along a plurality of streets on the front surface of a semiconductor wafer having a plurality of streets on the front surface in a lattice form and a circuit formed in each of a plurality of areas sectioned by the plurality of streets, affixing a protective tape to the front surface of the semiconductor wafer having the dividing grooves formed thereon (see Figures 1A-1C). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor wafer of Fukumoto (accordance with the teaching of Badehi). Doing so would facilitate the manufacture of the semiconductor structure and protect the semiconductor device from damages during fabrication process.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong A. Luu whose telephone number is (571) 272-1902. The examiner can normally be reached on M-F (6:15-2:45).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chuong Anh Luu
Patent Examiner
June 22, 2005